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News Bulletin of The Entomological Society of Victoria Inc.

THE ENTOMOLOGICAL SOCIETY OF VICTORIA (Inc)

MEMBERSHIP

Any person with an interest in entomology shall be eligible for Ordinary membership. Members of the Society include professional, amateur and student entomologists, all of whom receive the Society's News Bulletin, the Victorian Entomologist.

OBJECTIVES

The aims of the Society are:

- (a) to stimulate the scientific study and discussion of all aspects of entomology,
- (b) to gather, disseminate and record knowledge of all identifiable Australian insect species,
- (c) to compile a comprehensive list of all Victorian insect species,
- (d) to bring together in a congenial but scientific atmosphere all persons interested in entomology.

MEETINGS

The Society's meetings are held at room AG17, La Trobe University Carlton Campus, 625 Swanston Street, Carlton, Melway reference Map 2B E10 at 8 p.m. on the third Friday of even months, with the possible exception of the December meeting which may be held earlier. Lectures by guest speakers or members are a feature of many meetings at which there is ample opportunity for informal discussion between members with similar interests. Forums are also conducted by members on their own particular interest so that others may participate in discussions.

SUBSCRIPTIONS

Ordinary Member	\$20.00
Country Member	\$16.00 (Over 100 km from GPO Melbourne)
Student Member	\$12.00
Associate Member	\$ 5.00 (No News Bulletin)

No additional fee is payable for overseas posting by surface mail of the news bulletin. Associate Members, resident at the same address as, and being immediate relatives of an ordinary Member, do not automatically receive the Society's publications but in all other respects rank as ordinary Members.

Cover design by Alan Hyman.

Cover illustration of *Synlestes weyersii tillyardi* (O.: Synlestidea) ♂ by Catherine Symington.

MINUTES OF THE ANNUAL GENERAL MEETING, 19 JUNE 1998

The President, A. Kellehear, opened the General Meeting at 8:01 pm

Present: D. Dobrosak, K. Dunn, I. Endersby, A. & E. Farnworth, A. Kellehear, R. J. Tinetti, C. Paterson, R. MacPherson, D. & N. Stewart, J. Fook.

Visitors: M. Endersby, M. Heath, R. McMahon.

Apologies: M. Malipatil

Minutes:

Minutes of the 20 June 1997 Annual General Meeting [*Vic. Ent.* 27(4):65] were accepted with the amendment that the President opened the meeting (Endersby/MacPherson).

Treasurer's Report:

The annual reports were detailed in the June issue [*Vic. Ent.* 28(3):60]. The Treasurer drew the attention of members to the General Account deficit which was attributed to expenses associated with the Organ Pipes National Park survey and a donation to the AES annual conference. The small deficit in the Le Souëf Award Account represents the low interest rate prevalent last year. The accounts were accepted (I. Endersby/D. Stewart).

Editor's Report:

The Editor thanked the regular contributors and Ian Endersby for assistance in the role of Editor. Particular thanks were extended to Susan Dobrosak who faithfully arranges the mail-out of *Victorian Entomologist* every second month.

Committee Reports:

No reports were given as the Conservation and ENTRECS Committees did not meet last year.

Nominations for Council Positions:

The Public Officer called for nominations from the floor as no written nominations had been received. The existing Office bearers agreed to continue in their positions and the following were duly elected unopposed.

President:	A. Kellehear
Vice President:	Vacant
Secretary:	D. Dobrosak
Treasurer:	I. Endersby
Editor:	D. Dobrosak
Public Officer:	I. Endersby
Excursion Secretary:	P. Carwardine
Councillors:	R. MacPherson, D. Stewart, N. Stewart

Ms Jan Tinetti was nominated for the position of Councillor (A. Kellehear/A. Farnworth). Ms Jan Tinetti was elected unopposed.

The Treasurer thanked A. Kellehear for his positive contribution to the Society as President over the past two years and also extended thanks to the Editor for producing *Victorian Entomologist*.

The meeting was closed by the Public Officer at 8.12 pm.

MINUTES OF THE GENERAL MEETING, 19 JUNE 1998

The Treasurer, Ian Endersby, opened the General Meeting 8.12 pm

Present: D. Dobrossak, K. Dunn, I. Endersby, A. & E. Farnworth, A. Kellehear, R. J. Tinetti, C. Paterson, R. MaePherson, D. & N. Stewart, J. Fook.

Visitors: M. Endersby, M. Heath, R. McMahon.

Apologies: M. Malipatil

Minutes:

Minutes of the 17 April 1998 General Meeting [*Vic. Ent.* 28(3):41-42] were accepted (A. Farnworth/D. Dobrosak).

Treasurer's Report: The Treasurer presented the financial statement as of 20 June 1998:

Account balances stand at: General Account \$5,172; Le Souëf Award Account \$3,305. Membership is as follows:

	Paid	Unpaid	Total	Applications
Metropolitan	32	8	40	
Country	46	9	55	3
Life	2		2	
Student	2	2	4	1
Associate	7	1	8	
Institutions		10		
Gift		1		

103 plus 7 Associate members and 10 subscribers. (I. Endersby/D. Dobrosak).

Editor's Report:

The Editor reported that the recent surplus of papers was rapidly being depleted and further articles were requested for the October issue of *Victorian Entomologist*.

Presidential Address:

Dr. Allan Kellehear, presented a talk on the topic 'A Passion for Small Things - A History of Entomology'. The talk outlined the history of entomology and expounded on underlining reasons for the fascination and occasional obsession which people have with insects

A vote of thanks was extended to the President for the interesting and informative talk he presented.

(The text of the Presidential Address will be reproduced in a future issue of *Victorian Entomologist* - Editor)

General Business:

Membership: L. Morey was elected to membership. Applications for membership were received from E. Makon, J. Shield and A. Sundholm.

Auxiliary Talk - Peter Carwardine

Peter has been a Society member since 1972 and has a broad knowledge of entomology and natural history in general. Peter presented a comprehensive talk on the Defence mechanisms of insects.

The meeting was closed by the Treasurer at 9:47 pm.

MINUTES OF THE COUNCIL MEETING, 17 JULY 1998

The President, A. Kellehear, opened the meeting at 8.04 pm and welcomed Jan Tinetti to the Council.

Present: I. Endersby, A. Kellehear, R. MacPherson, D. & N. Stewart, J. Tinetti

Apologies: D. Dobrosak.

Minutes: Minutes of the 15 May 1998 Council meeting [*Vic. Ent.* 28 (3): 43] were accepted. (N. Stewart/I. Endersby).

Treasurer's Report:

Account balances stand at: General Account \$5,044; Le Souef Award Account \$3,387. The Commonwealth Bank has agreed to waive charges on the Award Account that would have made it untenable to operate.

15 members are still unfinancial and the Treasurer will write to each of them with a personal reminder.

General Business:

Associations (Incorporations) Act.: The Public Officer advised that a number of amendments to the Act would affect the Society. (i) It will be necessary to change the date of the Annual General Meeting to April so a resolution to amend the Constitution will have to be presented to Members. (ii) The Society's Incorporation number will have to be displayed on all publications and business documents. (iii) The Society must have a grievance procedure. The Public Officer will review the procedure published in the Act's model constitution and report on its applicability to the September Council meeting.

ENTRECS: The ENTRECS data sheets have been retrieved from M. Hunting (currently working overseas) and have been entered into a computer file. A committee of Dobrosak/Endersby/Kellehear was appointed to review what future analyses should be done with the data. It was agreed that members would be canvassed to see if there was support for commencing a new phase of data collection.

Accommodation: The President reported that La Trobe University has sold the building where we hold our meetings and our tenancy will expire in December 1998. Dr Kellehear will monitor the situation and advise if accommodation could be provided in the university's new city premises. If this proves infeasible or too expensive Council will seek another location. Possible venues suggested were University of Melbourne, RMIT, Council of Adult Education, Victorian Horticultural Society, Swinburne University, Burnley Horticultural College.

Archives: Dr T. New is willing to continue holding the Society's archives of books, journals and minutes in his office at La Trobe University. It was noted that the archival material contains the early minute books of the Society.

Life Membership: A general discussion was held on the category of Honorary Life Member and will be continued at the September meeting with a review of possible nominations.

The meeting was closed by the President at 9.35 pm.

A Special Meeting of the Society will be held at 8 pm on 16 October 1998 (just prior to the Ordinary General Meeting of that date) to consider and, if thought fit, to approve the following motion.

That Rule 10 of the Society's Constitution be amended (in part) to read: "The Annual General Meeting shall be held in April of each year."

This change from June to April is necessary for the Society to comply with the Associations Incorporation (Amendment) Act 1997.

The Constitution requires that three-fourths of the members present vote in favour of the motion for the Constitution and Rules to be amended

ENTRECS Project.

Council is trying to assess whether there would be sufficient support from the Members to start a new data collection phase of the ENTRECS project. (see Minutes of Council meeting held on 17 July).

The scheme is an ongoing data collection program of the Entomological Society of Victoria to collect and store records of Victorian insects. It was initially established in 1975 to record distribution data and in 1986 the Society published the "Preliminary Distribution Maps of Butterflies in Victoria". Since then the project has lapsed due to resignations from the ENTRECS Committee but Council members believe that the project should be continued.

Please advise the Secretary of your interest in participating in time for it to be discussed at the Member's Night in December.

You would be expected to provide, probably on a quarterly basis, records of the presence of insects and their locality. Accurate identification is important. As well as locality data the scheme is designed to record abundance, breeding status and habitat information. Further information can be obtained from the Editor.

New Foodplant Recordings and Biological Observations for Some Western Australian Butterflies

R. GRUND

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Abstract

New foodplant recordings and biological observations are documented for a number of Western Australian butterflies.

Introduction

During the period September 31-October 17, 1997, the author was fortunate to accompany a group of touring people through the Kimberley area of Western Australia, and then down along the coast via Millstream and the Pilbara, to Perth. The unfortunate part was that it was done very quickly and the author was at the mercy of the other non-lepidopteran people and so butterfly observing was not high on the agenda. However, a number of interesting, opportunistic observations were made, and are recorded as follows.

Discussion

HESPERIIDAE

Antipodia dactyliota dactyliota (Meyrick)

The original colony from which Meyrick's type specimens were probably obtained, and which the author rediscovered in 1972, still exists within the suburbs of Geraldton, where it now appears to be preserved as a council reserve. The colony is small, but very vigorous, and the foodplant *Gahnia lanigera* (R.Br.)Benth. (Cyperaceae) is still very healthy.

Hesperilla sexguttata Herrich-Schaffer

This butterfly was common along permanently wet creek-lines throughout the Kimberley, where its early stages were recorded on *Cyperus microcephalus microcephalus* R.Br. (Cyperaceae). These wet areas are under water for a considerable period every wet season, and it would be interesting to know how the butterfly manages to survive during these periods! A *Hesperilla* species may also be present in the Pilbara gorges, as tubular shelters were present on some of the sedges, but early and adult stages could not be found.

Hesperilla donnysa Hewitson, *Hesperilla chrysotricha* (Meyrick & Lower)

Coastal colonies of these two butterflies were observed at various places between Kalbarri and Mandurah. In all cases, even at Kalbarri, *H. chrysotricha* was the dominant butterfly, while *H. donnysa* was extremely rare. The original northern wetlands around Northampton, that contained *Gahnia trifida* Labill. (Cyperaceae) during a previous visit by the author in 1972, have been exterminated, although there still exists a good *Gahnia* wetland just to the south of Kalbarri, which needs urgent conservation. Occasional *Gahnia trifida* tussocks observed along the Murchison River were devoid of *Hesperilla* habitation. The form *H.d. galena* Waterhouse, seems to be restricted to the Kalbarri area, as *H. donnysa* from near Leeman, 200 km further to the south, were the form *H.d. albina* Waterhouse.

Telicota colon argeus (Plotz), *Ocybadistes hypomeloma vaga* (Waterhouse)

These butterflies were present in the gorges of the Pilbara. The early stages of *T.c. argeus* were found at Fortescue Falls on golden-beard grass *Chrysopogon fallax* S.T.Blake (Gramineac).

PIERIDAE

Eurema alitha (C.&R. Felder), *Eurenia hecate* (Linne), *Catopsilia pomona* (Fabricius)

E. alitha was the commonest of the above two yellows, being encountered throughout the Kimberley and also as far south as Karratha and the Pilbara. *E. hecate* was mainly seen in the gorges of the Pilbara, where it was present with numerous *C. pomona*. These latter two butterflies were probably immigrants (particularly in the case of *C. pomona*), as *Cassia* (Leguminosae) type foodplants were not evident.

Belenois java teutonia (Fabricius)

Early stages were seen on *Capparis spinosa* Linne. (Capparaceae), in the gorges of the Pilbara.

NYMPHALINAE

Melanitis ?leda (Linne)

A *Melanitis* species was observed briefly at Fitzroy Crossing. The butterfly was dark and had a very large and prominent yellow/white apical band. The large apical band appeared to be anomalous for *M. leda* and it is possible it may have been another species of *Melanitis*.

LYCAENIDAE

Ogyris amaryllis meridionalis Bethune-Baker

The early stages of this butterfly were found near Wittenoom on *Amyema fitzgeraldii* (Blakely)Danse (Loranthaceae), (growing on *Acacia orthocarpa* F.Muell. (Mimosoideae)). They were attended by small black ants *Iridomyrmex* sp. This butterfly was also encountered on the same foodplant, (growing on jamwood *Acacia acuminata* Benth.) in the Geraldton area.

Ogyris idmo Hewitson, *Ogyris* sp. aff. *otanes* C.&R. Felder

The dual colonies of the above butterflies at Port Denison were seen to use *Camponotus terebrans* (Lowne) as their respective ?larval host and attendant ant.

Candalides erinus (Fabricius)

This butterfly was common where-ever *Cassytha* was growing, and occurred as far south as Coral Bay. Its foodplant was sampled at several localities. At Turkey Creek (near Kununurra), Pardoo Roadhouse and Cable Beach it was determined as *Cassytha filiformis* (Linne.) (Lauraceae). Also at Pardoo it was utilising *Cassytha aurea* J.Z. Weber. Unfortunately, foodplant samples taken at Coral Bay were lost, where *Candalides hyacinthina simplex* (Tepper) was also utilising the same *Cassytha* as a foodplant. (*Cassytha melantha* R.Br., the usual foodplant of *C.h. simplex*, apparently does not occur north of Leeman).

Candalides acasta (Cox)

At Port Denison, this butterfly was using *Cassytha filiformis* as a foodplant.

Theclinesthes albocincta (Waterhouse), *Theclinesthes hesperia* Sibatani & Grund

Following upon the author's earlier paper (Grund 1996), on the distribution of *Theclinesthes albocincta* and *T. hesperia*, based on the records of their eggs on dried foodplants preserved in Australian herbaria, the author had a chance to check some of these observations during the trip. The Ord Gorge site was not visited, and *Adriana* was not observed in the creeklines that were crossed by the Great Northern Highway between Wyndham and Fitzroy Crossing. However, at the latter town, the *Adriana glabrata* Gaudich (Euphorbiaceae) noted by Grund (1996), was found to occur along the west bank of the Fitzroy River between the Geikie Gorge National Park Information Centre and north for about 2 km to the start of the gorge. Unfortunately, only a very short time could be spent at the location, and no evidence of *T. albocincta* was seen. The

ranger present said they had one of their all-time biggest floods recently and this may have eradicated the *Theclinesthes* habitation. However, one egg of Egg Type 4 was collected from the *Adriana*, and the author managed to rear it to the late second instar before it succumbed to the rigours of the trip. There were two other Lycaenids flying in the vicinity, (but unfortunately the author did not have a net at the time), they being a *Catopyrops/ Catochrysops/ Euchrysops* type and a very small blue, possibly *Famegana alsulus* or *Zizeeria karsandra*. It is possible the Egg Type 4 belongs to *Zizeeria karsandra*, as outside of Australia this butterfly uses *Euphorbia* sp (Euphorbiaceae) as a foodplant, and its egg morphology is compatible with Egg Type 4.

No further *Adriana* was observed between Fitzroy Crossing and Broome. At Cable Beach, *Adriana tomentosa* Gaudich was very common on, and immediately landward of the sand dunes, and were generally infested with the early stages of *T. albocincta*. For most of the morning the adults were only seen on the dune tops, but later in the day were observed around the foodplant. The adults were the brown forms without any blue colour on the upper wing-surface (Form 4 adults of Sibatani and Grund 1978). No *Adriana* was seen again south of Broome along the main highway between Broome to Dampier, and then inland to the Pilbara and back to the coast at Nanutarra. However, along Highway 352 near Coral Bay, *Adriana tomentosa* was again common and *T. albocincta* (Form 4 adults) were again present in large numbers.

South of Coral Bay, no more *Adriana* was observed along the highway until Dongara, where *A. quadripartita* (Labill.) Gaudich was observed, but there was no *Theclinesthes* habitation. Several more *A. quadripartita* sites were investigated immediately south of Dongara, without success, until Jurien where a *T. hesperia hesperia* colony was found on a small roadside grove of *A. quadripartita*. Further south, no further *Adriana quadripartita* sites were seen until Mandurah, south of Perth. The latter is one of the original sites for *T.h. hesperia*, and last documented by Field (1990b), but no evidence of the butterfly was seen this time. It was possibly too early in the season for the butterfly, although Bob Hay thinks the butterfly may no longer exist due to the increasing pressures of urbanisation, intense cattle grazing and frequent fires.

The early stages of the above two butterflies have yet to be described and they will be documented by the author in a later paper.

Jamides phaseli (Mathew)

Adults were very common in the scrub immediately to the east of the Cable Beach sand-dunes. The early stages could not be found.

Lampides boeticus (Linne)

At Cable Beach and Millstream the early stages were found on *Crotalaria cunninghamii* R.Br. (Leguminosae). At Cable Beach they were attended by small black ants, *Frogatella* sp. At El Questro (near Wyndham), the early stages were using *Crotalaria novae-hollandiae* DC.

Zizeeria karsandra (Moore)

This butterfly was sporadically seen during the trip. South of Broome, adults were collected at Warambie (near Roebourne), and also at Coral Bay.

Famegana alsulus (Herrich-Schaffer)

This butterfly was frequently seen as far south as Coral Bay. At Python Pool in Millstream-Chichester National Park the butterfly was seen to use *Cajanus pubescens* (Ewart &

Morrison)Maesen (Leguminosae) as a foodplant. Eggs were laid singly on the flower heads. Early stages were attended by a few small black ants, *Iridomyrmex* sp.

Acknowledgments

The foodplants (except for the *Adriana*, *Gahnia* and the *Cassytha aurea*), were identified by R. Cranfield at the Western Australian Herbarium, and have been lodged as voucher specimens. The ants were identified by Archie McArthur at the South Australian Museum. Matt Williams at CALM offered considerable help and advice before and after the trip.

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Rearing Butterflies and Moths

Based on a talk given to the Society on Friday April 18th 1997

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Warrandyte 3113

We started rearing butterflies and moths about 15 years ago in order to avoid further embarrassment from our two children who frequently asked questions such as "what does that caterpillar turn into?" At the time there were no books to help answer such seemingly difficult questions. Little did we know we would have our own book published on the subject called 'Flying Colours' (Coupar & Coupar, 1992).

The very first caterpillar to come under our scrutiny was a rather undistinguished brown caterpillar which our daughter found feeding on a grevillea in a garden bed outside our bedroom. She kept the caterpillar in a container set up in a container with a small vase of the grevillea. It soon pupated and, after a few weeks, an attractive pinkish-brown moth emerged. According to the book 'Moths of Australia' (D'Abraera, 1974) borrowed from the local library - it was the Wine-coloured Moth *Oenochroma vinaria*, Family Geometridae.

Not to be outdone by our children, we decided to try rearing caterpillars for ourselves. We collected several specimens of an attractive caterpillar with 'toothbrush' tufts on its back, found in the garden feeding on a variety of plants. The caterpillars eventually pupated in hairy cocoons. When the moths emerged we were astonished to find what appeared to be two totally different species. They weren't of course; the elegant brown and yellow winged moths with large feathered antennae were males and the golden rotund wingless ones were females. Once again, referring to 'Moths of Australia', we identified the moths as *Teia anartoides*, one of the 'tussock moths' commonly known as the Painted Apple or Acaea Moth.

Our early successes in breeding soon became marred with failures. Some caterpillars simply did not thrive in captivity. It was now quite evident that we had reached a stage where we needed to cater for specific needs, in particular presenting the correct species of foodplant and, in some cases, even the right portion of the foliage. Our trips to collect foodplants radiated further and further afield. On moving to Warrandyte from Ringwood we found the foodplants of many of our caterpillars already growing in our garden. We tried new techniques for housing individual species. Several methods for collecting caterpillars were used including 'beating' foliage and sweep-netting grass. Later several species were reared through by attracting adult moths to a mercury vapour lamp, confining the females to encourage them to lay eggs. We were also finding that many of the moths we reared were not included in 'Moths of Australia' (D'Abraera, 1974). Hence, we pinned specimens to be positively identified by Ted Edwards at the CSIRO Department of Entomology in Canberra. Ted's generous help was invaluable to the project. Another milestone came in 1990 with the publication of 'Moths of Australia' by Ian Common which assisted greatly in identification.

By this stage we were starting to confirm for ourselves that the most common groups of foodplants for caterpillars are eucalypts, wattles and grasses. We found beating small branches of eucalypts dislodged caterpillars that are otherwise difficult to find by eye. One such example is the caterpillar of a relatively common Snout Moth in the Melbourne region, which surprisingly has not been studied sufficiently to the species level and, at present, can only be referred to as *Entometa* sp. Family Lasiocampidae. The caterpillar, which feeds on a variety of eucalypts including Narrow-leaved Peppermint *Eucalyptus radiata*, is well camouflaged resembling the twigs on which it rests. Adult females are attracted to mercury vapour lamps, so this species can be reared right through its life cycle from eggs. We used this somewhat tedious and time-consuming method to study and photograph the caterpillars of Boisduval's Autumn Moth *Oenosandra boisduvali* Family Thaumetopoidae, as we had failed to find this caterpillar in the bush. The newly emerged caterpillars of this attractive black, white and gold flecked

moth accepted Narrow-leaved Peppermint *Eucalyptus radiata*. As the caterpillars grew, they developed a sparse covering of hairs and a dark brown colour with light lines running along the length of the body. For its obviously secretive nature this caterpillar is not well camouflaged, but eluded us probably because it is solitary and only active at night. Other eucalypt feeders reared from eggs have revealed highly cryptic caterpillars, among these the Cup Moth *Pseudanapaea trigona* Family Limacodidae and the Emerald Moth *Eucylodes inseparata* Family Geometridae. The first caterpillar looks exactly like a eucalypt leaf, while the second resembles a serrated twig.

Beating the branches of wattles (*Acacia* spp.) also produced a bounty of caterpillars that fell into our upturned umbrella. In those days while out beating for caterpillars we often received perplexed expressions from joggers and walkers who were enjoying the bush for more conventional recreation. A common species found feeding on wattles was the green caterpillar of the Satin Moth *Thalaina clara*. These caterpillars, like many that feed on wattles and eucalypts are relatively easy to rear if their foodplant is kept in a small container of water to keep it fresh. This way, the food needs only to be replenished about once a week.

The same set-up can be used for grassfeeders. However, one species of grass-feeding caterpillar that was particularly difficult to rear was an Anthelid moth collected from Antonio Park, a Council reserve situated between Ringwood and Micham. We collected some of the large brown hairy caterpillars as they basked conspicuously in the spring sun. Most were feeding or resting on introduced and native grasses, but some were found on low shrubs. A few experiments established that these caterpillars thrived if kept in a plastic bucket containing introduced Panic Veldt Grass (*Ehrharia erecta*) planted in about 10 cm of soil. It was necessary to keep the caterpillars outside so they received some sunlight, in addition they required water in the form of a mist spray each day. Plastic fly wire was secured over the top of the bucket with a rubber band to keep the caterpillars from escaping. In late spring the caterpillars pupated deep in the soil. After about three weeks, the cocoons were carefully separated from the soil but it was not until the following autumn that adults, necessary to identify this species, finally emerged. Unexpectedly this proved impossible and the closest the experts were prepared to venture was *Pterolocera* sp., a member of Family Anthelidae. This family contains some of the most elegant moths which, apart from a few representatives in Papua New Guinea, are confined to Australia. The males are a beautiful golden-yellow colour so we, and the small 'Friends' group that care for the Park, called this *Pterolocera* the 'Antonio Gold Moth'. Surprisingly, the females were quite different being dark brown and wingless. This helped to explain why the males possessed such enormous feathered antennae - obviously needed to detect the pheromones of their females from a considerable distance.

Saw-sedges *Gahnia* spp. are another favoured group of foodplants, especially for the caterpillars of butterflies. We have found the caterpillars of several species of skipper feeding on their sharp-edged leaves, including the Flame Skipper *Hesperilla idothea*, Spotted Skipper *H. ornata*. The caterpillar of the Swordgrass Brown *Tisiphone abeona* also feed on this plant and are easily reared if confined with the foodplant in a small sealed glass tube. The leaves need to be folded backwards to prevent them from curling and tubes must be cleaned and replaced with fresh leaves every two to seven days.

We have reared many examples of species that feed on plants 'other than eucalypts, wattles, grasses and sedges'. Interestingly, some of these plants are semi-parasitic. For example, Cherry Ballart *Exocarpos cupressiformis* is a root parasite of many hosts, including eucalypts, wattles and even grasses. Unlike Saw-sedge, it is easy to keep fresh in a small container of water. The caterpillars of many species of moths and some butterflies, such as the Wood White *Delias aganippe*, utilise Cherry Ballart as their foodplant. One particular species that feeds on the foliage of this tree is the Acedesta Moth *Genduara acedesta* Family Lasiocampidae, but no amount of searching and beating revealed its caterpillars. It wasn't until we succeeded in attracting a female to a mercury vapour lamp, and confining her in a small container, that we eventually became familiar with the caterpillars. These grew at surprisingly different rates and

eventually reaching about 40 mm in length. They were covered in grey hairs which were longest at the front of the body and along the sides giving a high degree of camouflage against bark and twigs.

Mistletoe is the foodplant for the caterpillars of many butterflies and moths. Luckily this plant is relatively easy to keep fresh by placing stems in a small container of water. However, it may be necessary to change foliage more frequently than, for instance, eucalypt and wattle. When this is done species such as, the Mistletoe moth *Comocrus behri*, and Imperial White butterfly *Delias harpalyce* are easy to rear.

Another semi-parasitic foodplant for some caterpillars is Dodder Laurel *Cassytha* spp. We have successfully reared the Common Dusky Blue *Candalides hyacinthinus* and the Whistling Moth *Hecatesia fenestrata* by placing the caterpillars and foodplant in a sealed container. It is possible to keep batches of Dodder Laurel in the refrigerator wrapped in a plastic bag. This also works well for many other foodplants that may not be growing within easy reach from home.

Rearing butterflies and moths can be both challenging and rewarding in many ways. There are many secret life cycles yet to be revealed using this approach, hence the obvious scientific relevance. Some species are relatively easy to rear from the caterpillar stage and therefore this is a useful educational experience. A particular bonus for us was that it lead to a greater understanding of the botanical requirements of these fascinating insects and an even greater enjoyment of the Australian bush as a vibrant and dynamic whole.

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Another immigrant thrips species in Australia

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Every practising taxonomist will have been down this road. Just when you have published a nice summary - something new turns up. The new booklet, *Identification of the Common and Pest Thrips of Australia* (Mound & Gillespie, 1997), survived its test run at a training course on the biology and identification of thrips held at Canberra in the first week of December, under the auspices of CSIRO Entomology. Alone amongst the 14 participants, Tony Postle of AQIS pointed out that a slide-mounted specimen of a species labelled as the common 'dandelion' thrips, *Tenothrips frici* (Uzel), did not go through the new keys satisfactorily. Resisting a schoolmasterly urge to issue a reprimand for incompetence (if not impertinence!), the organisers checked the specimen and quickly recognised the problem. The slide was incorrectly labelled, and the specimen was actually a species of the genus *Thrips*. Moreover, it was equally quickly recognised as not being a member of any of the 20 species in that genus currently listed amongst the 450 named Thysanoptera species from Australia (Mound, 1996).

The specimen involved had been collected from *Taraxacum* flowers in the Dandenongs, whilst on a field trip with Ian Endersby on the 22nd March, 1996. Brown in colour and with dark wings but curiously pale antennae, the single available female was very similar, even to the eyes of a dedicated thrips specialist, to females of *Tenothrips frici*, the mediterranean species that is so widespread in southern Australia in the yellow flowers of introduced Asteraceae. But mounted onto a slide and examined at high magnification, the characteristic comb-like ctenidia behind the spiracles on the eighth abdominal tergite readily confirmed it as a member of *Thrips* genus, not *Tenothrips*. Precise identification of this single female was deferred, but a few days later the Course members visited the School of Horticulture, University of Western Sydney, at Richmond, NSW, and whilst looking for western flower thrips we took a series of brown thripids from *Taraxacum* flowers.

Subsequent examination of the sample from Richmond revealed that it included three species of dark brown Thripidae. *Tenothrips frici* was in large numbers. The pan-tropical flower thrips, *Frankliniella schultzei* Trybom, was in low numbers. But six females and two males represented the same unidentified *Thrips* species that had been taken in the Dandenongs. In northern Europe, two of the most common *Thrips* species in yellow Asteraceae flowers, including species of *Hieracium*, *Hypochoeris* and *Leontodon* as well as *Taraxacum*, are *Thrips physapus* Linnaeus and *Thrips trehernei* Priesner. The former, the type-species of this vast genus, is smaller with short setae and yellow males, whereas the latter has long setae and dark brown males (Mound *et al.* 1976). The fact that the Australian male specimens were dark brown helped confirm the identity of this material as *Thrips trehernei*. Subsequently, a further female of this species was identified from *Taraxacum* flowers at Mudgee, NSW, collected on 13 April 1994 by Marilyn Steiner and Stephen Goodwin of the Gosford Horticultural Research Institute. Moreover, when the rains finally came after a prolonged dry summer in Canberra, many *Taraxacum* plants produced flowers at the end of April 1998, and *T. trehernei* was found at several sites.

Thrips trehernei thus seems likely to be well established in the southern parts of Australia, and this suggests that it is probably not a recent immigrant. Indeed, few people have ever looked for these small insects, Reginald Kelly from Melbourne who died more than 60 years ago being the only serious student from Victoria. Hence the species may well have been established in Australia for over 100 years. However, attempts to find it during late December 1997 in the abundant yellow flowers of *Hypochoeris radicata*, at sites around Canberra and at various sites in the Adelaide Hills, were not successful. *T. frici* occurred in these flowers in very large numbers, and this raises some interesting questions. For example, is the strain of *T. trehernei* that has been introduced to Australia host-limited to *Taraxacum*, despite the species being

polyphagous in Europe? Or is there competitive exclusion in the summer-flowering Asteraceae in Australia by the warm-adapted Mediterranean *T. frici* toward the more cold-adapted northern and European montane species *T. trehernei*?

Small they may be, but thrips are by no means insignificant, whether through their interesting biologies such as the production of 'soldiers' by gall-inducing species on Australian *Acacia* trees (Mound, et al., 1996), or their impact as pests such as western flower thrips on flower and vegetable crops in the Sydney Basin, or even their sheer numbers that have given rise to the common names 'thunder flies' and 'plague thrips'. Consider a typical but slightly neglected horse paddock near Adelaide this summer with about 50 *Hypochaeris* flowers to the square metre, each flower containing about 10 adult *T. frici*; that is 500 thrips to the square metre or about half a million adults in a field 30 metres square. William Kirk (1997) recently calculated that in 1400ha of lucerne at Keith, South Australia, with four adult *Thrips imaginis* Bagnall to each flower, the total thrips population probably weighed 70 tons - and this is not considered a pest of that crop!. No wonder the poet Jennet Humphreys wrote at the beginning of this century, "Beware of the Thrips!"

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FRONT COVER ILLUSTRATION

It is customary for the front cover illustration to be selected by the President. Accordingly, Dr. Allan Kellehear, has requested that next years front cover illustration depict a specimen of the Blue triangle butterfly *Graphium sarpdon* L.

Artistically inclined readers are requested to send appropriate artwork to the editor for consideration by Council. The deadline for submissions is 11 December 1998.

INSECT BEHAVIOUR (4)

[An occasional series reporting examples of insect ecology or ethology from the current literature]

As habitat fragmentation increases, the concept of the "metapopulation" is becoming more important in conservation biology. A good introduction to the literature can be found in "Metapopulation Dynamics and Genetics" [A. Hastings & S. Harrison *Annu. Rev. Ecol. Syst.* 1994. 25: 167-188].

Over a large area a regional population will be made up of a number of local populations. Such an assemblage of local populations, connected by migration and kept in balance by extinction and recolonisation, was termed a *metapopulation* by R. Levins in the early 1970's. Local extinctions occur within patches and unoccupied patches are colonised by immigrants from occupied ones. By this mechanism a species can survive even though extinction is certain at the level of single patches.

A number of conceptual and mathematical models have been developed to describe metapopulation dynamics. The *mainland-island* model assumes a large and secure population source on the "mainland" from which individuals can migrate to smaller habitat "islands" which have fluctuating populations. There can also be migration among the island populations, often termed *stepping-stone* dispersal. Levins' own metapopulation model assumes that there is no "mainland" but a set of equally sized habitat patches or "islands" exists, with local populations becoming extinct and the vacated patches being recolonised from populated "islands". If these two models are considered to be at the extremes of a continuum the best approximation to many natural systems would be a series of patches with a considerable variation in size, but no one "mainland" where the population never goes extinct.

Some theoretical extensions of Levins' concepts consider single species, competition for resources and predator-prey dynamics. Another development has been to consider habitat quality as one of the driving forces rather than just the size of the patch.

Because most of the models describe habitat patches as being the form of "islands" it is constructive to look at two of the relationships discovered as the equilibrium theory of island biogeography was developed. Firstly, the number of species on islands increases as the area of the island increases and secondly, the number of species decreases as the island becomes more isolated. These sorts of rules apply, not only to the number of species, but also to the probability that a particular species will occur on the island. So we can modify metapopulation models, which balance extinction and recolonisation, by recognising that extinction will depend on patch size, and recolonisation will depend on patch isolation.

These models and concepts do have a practical use even if it is difficult to determine the precise relationships involved. Numerical experiments can be carried out to assess how the risk of metapopulation extinction is affected by the removal of particular patches, or the predicted consequences of alternative networks of habitat patches can be compared.

Ian Endersby

On the Status of several names previously ascribed to Australian Prioninae (Coleoptera: Cerambycidae: Prioninae).

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Introduction

The Prioninae of Australia have not been studied in detail for nearly a century. Various entomologists added to the Australasian fauna during the late 1800s and early 1900s (eg. Olliff 1888, 1889, 1890, Blackburn 1890, 1892, 1893, 1894, 1895, Wilson 1923) but no comprehensive review of the Australasian fauna has been conducted since the work of Lameere (1885-1919). Quentin and Villiers (1981) later revised the Macrotomini but no work on the remaining prionid fauna has been conducted recently.

Several species initially reported from Australia have since been synonymised with species from Africa. These synonymies were recognised as long ago as the late 1800s but the original comparisons were published in French and the reasons for the synonymies appear to be poorly known. This note is intended to clarify the current status of these taxa through translation of the original works and consideration of historical changes in nomenclature. It is not my intention to review the recent nomenclature of these species nor to verify these synonyms but simply to provide some of the background literature (mostly in French) in a more accessible form.

Pithanotes falsus (= *Cacosceles oedipus*)

1838 *Cacosceles oedipus* Newman Ent. Mon. Mag. 5: 491 (Africa - Algoa Bay)
1840 *Pithanotes falsus* Newman Ann. Mag. Nat. Hist. 5: 16 (Australia)
1853 *Cacosceles oedipus* (=*Pithanotes falsus* females) White Cat. Col. Brit. Mus. 7: 7 (S. Africa)
1860 *Cacosceles oedipus* (=*Pithanotes falsus*) Thomson Classif. Ceramb. p. 326 (Natal)
1867 *Cacosceles oedipus* (=*Pithanotes falsus* females) Pascoe J. Linn. Soc. Lond. 9: 142
1869 *Cacosceles oedipus* (=*Pithanotes falsus* females) Lacordaire Gen. Col. 8: 64 (Natal)
1876 *Cacosceles oedipus* Lacordaire Gen. Col. Atlas 9: pl. 82, f. 1 (Natal)
1886 *Pithanotes falsus* Masters Proc. Linn. Soc. N.S.W. (2) 1: 987 (Australia)
1909 *Cacosceles oedipus* (=*Pithanotes falsus* females) Lameere Annls Soc. Ent. Belg. 53: 463 (Colonne du Cap)
1913 *Cacosceles oedipus* (=*Pithanotes falsus*) Lameere Col. Cat., Junk 52: 58 (Kapland)
1919 *Cacosceles oedipus* (=*Pithanotes falsus* females) Lameere Gen. Ins. Witsman 172: 108 (Cap de Bonne-Esperance)
1954 *Cacosceles* (*Cacosceles*) *oedipus* Gilmour Bull. Inst. Sc. nat. Belg. 30 (24): 39 (Cape of Good Hope)

Newman (1838) described *Cacosceles oedipus* from male material from Natal (Africa). Two years later, Newman (1840) described *Pithanotes falsus* from female material apparently from Australia. Despite the discrepancy in geographic location, White (1853), and subsequently Thomson (1860, 1864), regarded *Pithanotes falsus* as the female of *Cacosceles oedipus*. Lacordaire (1869) argued that this could not be true because *P. falsus* was from Australia and not Natal (Africa) and that fundamentally male and female Prionids cannot differ. In his mind, *Pithanotes* should stand but curiously he chose to ignore the genus anyway [and presumably accept the synonymy of White]. Lacordaire appeared not to accept that males and females of some prionids can be as morphologically distinct as is presently known for some species. This presumably led him to maintain many invalid genera and species. Of subsequent authors (Pascoe 1868, Masters 1886, Lameere 1909, 1913, 1919) only Masters maintained *P. falsus* as a valid species. Pascoe (1868), in referring to both *P. falsus* and *D. pentamera*, indicates that they are either unknown to him or erroneously referred to Australia. He also acknowledged that *P. falsus* is probably the female of *C. oedipus*.

Lameere (1909, p. 452) stated: "At the same time he described *Dorx pentamera*, Newman described a different enigmatic insect from the Children collection he called *Pithanotes falsus*, which he attributed to Australia. Now, *Pithanotes falsus* appears to be the female of *Cacosceles oedipus* from the Colonie du Cap: the synonymy was proposed by White. Lacordaire rejected this synonymy on the basis that he believed that Prionid females do not differ so greatly from males but his illustration in *Genera du Coleopteres* of the female of *Cacosceles oedipus* is either a small male *Cacosceles newmani* or the description of *Pithanotes falsus* matches perfectly the female of *Cacosceles oedipus*. Here is another African insect considered in error to originate from Australia."

Nothophysis lucanoides Audinet-Serville 1832

1832 *Nothophysis lucanoides* Audinet-Serville Ann. Ent. Soc. Fr. 1832: 159 (Kangaroo Island)
 1840 *Nothophysis lucanoides* Castelnau Hist. Nat. des Insectes, Colept. p. 389 (Kangaroo Island)
 1853 *Nothophysis lucanoides* White Cat. Col. Brit. Mus. 7: 6 (Australia; Kangaroo Island)
 1860 *Nothophysis lucanoides* Thomson Classif. Ceramb. p. 381 (Australia)
 1867 *Nothophysis lucanoides* Pascoe Ann. Mus. Nat. His. 19: 413
 1867 *Nothophysis lucanoides* Pascoe J. Linn. Soc. Lond. 9: 140 (South Australia (Gawler), Kangaroo Island)
 1869 *Nothophysis lucanoides* Lacordaire Gen. Col. 8: 137 (Australia)
 1876 *Nothophysis lucanoides* Lacordaire Gen. Col. Atlas 9: pl. 82, f. 5 (Australia)
 1886 *Nothophysis lucanoides* Masters Proc. Linn. Soc. N.S.W. (2) 1: 986 (South Australia)
 1893 *Nothophysis lucanoides* Blackburn Proc. Linn. Soc. N.S.W. 8: 191
 1903 *Nothophysis lucanoides* Lameere Annls Mus. Cong. Zool. (3) 2: 20
 1909 *Nothophysis lucanoides* Lameere Annls Soc. Ent. Belg. 53: 451, 456
 1912 *Nothophysis lucanoides* Lameere Mem. Soc. ent. Belg. 21: 172
 1913 *Nothophysis lucanoides* Lameere Col. Cat., Junk 52: 57 (West Africa)
 1919 *Nothophysis lucanoides* Lameere Gen. Ins. Witsman 172: 106 (West Africa)
 1954 *Nothophysis lucanoides* Gilmour Bull. Inst. Sc. nat. Belg. 30 (24): 39, pl. 6, figs. 5 & 7 (Belgian Congo)

Audinet-Seville described "*Nothophysis lucanoides*" in the first part of his "Nouvelle classification de la famille des Longicornes" (Ann. Ent. Soc. Fr. 1832, p. 159) based on a single specimen in the Muscum d'histoire Naturelle, Paris collected by M. Peron supposedly on Kangaroo Island. *Nothophysis lucanoides* remained linked to Australia until Lameere (1903) and onwards questioned the validity of this location.

Pascoe (1867) in his description of *Elaptus simulator* notes that *Elaptus* differs from *Nothophysis* in the antennae and eyes. Further he notes differences between a species of *Nothophysis* in his collection and *N. lucanoides* in the morphology of the mandibles, head and thorax, elytra, tarsi and antennae. So, at that stage there was some confusion over the characteristics of *Nothophysis*.

Lameere (1909, pp. 451-452) stated: "In my work on the Prionides of tropical Africa, I've already had occasion to note that the type of *Nothophysis lucanoides* reported at the beginning of the last century by Peron, supposedly from Kangaroo Island, is the same insect described [later] by von Harold under the name of *Colpoderus substriatus* from west Africa. The type [of *Colpoderus substriatus* presumably] was made available to me by the Paris Museum and corresponds perfectly with the description details given by Scville and Lacordaire. I am forced to conclude that there was an error in the indication of its [*N. lucanoides*] origins".

He further noted, in relation to *Nothophysis barnardi* Olliff 1890: "*Nothophysis barnardi* Olliff (Proceed. Linn. Soc. N.S.W. ser. 2, V, 1890, p. 7) of Queensland of which the type can be found in a collection in Sydney [now in the Australian Museum, Sydney] is unknown to me; but according to the description it must be something other than *Nothophysis lucanoides*, and I am pretty sure it is related to *Elaptus simulator* Pascoe." *N. barnardi* is listed as a synonym of *E. simulator* by McKeown (1947).

Lameere (1909 p. 456) confirmed that *N. lucanoides* was from Angola and the Gold Coast of West Africa and not from Kangaroo Island, as erroneously indicated on the type in the Paris Museum. Gilmour (1954) records *N. lucanoides* from the Belgian Congo and allied to *N. laevis* from the same region, with no mention of Australia.

Two species of *Cnemoplites* (*argodi* Lameere 1903 and *impar* Newman 1844) are known from Kangaroo Island (McKeown 1947). Despite Lameere's determination, it would be useful to compare the type specimens of these two species with Audinet-Serville's original description.

Dorx pentamera (= *Nothophysis caffra*)

1832 *Colpoderus coffer* Audinet-Serville Ann. Soc. Ent. Fr. 1: 179 (Cap du Bonne-Esperance)
1840 *Dorx pentamera* Newman Ann. Nat. Hist. 5: 16 (Australia)
1853 *Dorx pentamera* White Cat. Col. Brit. Mus. 7: 5 (Australia)
1856 *Dorx pentamera* White Proc. Zool. Soc. Lond. p. 9 (Aust.)
1860 *Dorx pentamera* Thomson Classif. Ceramb. p. 381
1867 *Dorx pentamera* Pascoe J. Linn. Soc. Lond. 9: 142 (Australia?)
1869 *Dorx pentamera* Lacordaire Gen. Col. 8: 138 (Australia)
1886 *Dorx pentamera* Masters Proc. Linn. Soc. N.S.W. (2) 1: 987 (Australia)
1903 *Nothophysis caffra* Lameere Annls Mus. Cong. Zool. (3) 2: 21
1909 *Nothophysis caffra* (=*Dorx pentamera*) Lameere Annls Soc. Ent. Belg. 53: 454 (Natal and Griqualand)
1913 *Nothophysis caffra* (=*Dorx pentamera*) Lameere Col. Cat., Junk 52: 57 (Natal, Griqualand)
1919 *Nothophysis caffra* (=*Dorx pentamera*) Lameere Gen. Ins. Wytzman 172: 106 (Natal, Griqualand)

Lameere (1909, pp. 451-452) states: "One entomological enigma is *Dorx pentamera* Newman, from Australia, not seen by anyone since being described in 1840. Lacordaire believed that the genus may well belong to his group Colpoderides. The type passed from the Children collection to the British Museum but has been lost.".

Further: "I find that the description of *Dorx pentamera* applies well to *Nothophysis caffra* (or *Colpoderus coffer*) of Natal. I consider therefore that *Dorx pentamera* is a synonym of *Nothophysis caffra* and as such should be deleted from the Australian fauna. M. Jordan described a Prionid from northern Australia which he called *Utra nitida* (Stett. Ent. Zeit. LVI, 1895, p. 267)" which I consider to be related to *Dorx pentamera*".

In subsequent work (Lameere 1913, 1919) he included *Dorx pentamera* as a synonym of *Nothophysis caffra* (an african species).

Jordan (1895) noted in his description of *Utra nitida* "As with *Dorx*, which is the genus that is closest to the new genus, the tarsi have a small but clear fifth segment at the bottom of the claw. The shape of the [mouthparts, pronotum and antennae] are the main means of differentiating *Utra* from *Dorx*." Previously, White (1856) noted that "*Dorx pentamerus*, an Australian insect described by Newman, has likewise [in relation to *Paronandra*], five joints to all the tarsi."

Given the observations of White (1856) and Jordan (1895) it would be useful to compare *Nothophysis caffra* from Africa with Jordan's *Utra nitida* from Australia at some point.

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Workshop of SEARS/IOBC Working Group on Greenhouse/Protected Crops IPM

“Natural Enemy to Biological Control Agent: Evaluating the Process”

25-28th January 1999
Sydney, Australia

The workshop is primarily for researchers and IPM practitioners who are active in the field of protected crops. Symposia topics include

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5. *Selection Criteria for Evaluating Efficacy and Potential of Native Natural Enemies in the Laboratory and Field*
6. *Marketing and Distributing New Biological Control Agents and Fitting Biological Control Agents into an IPM Program.*
7. *Fitting biological control agents into an IPM Program*

Registration is available from now until 1 September 1998. The deadline for abstracts is July 1 1998. For more information, please contact:

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For further information, check the website for the SEARS/IOBC Working group on Greenhouse/Protected Crops IPM at: <http://www.dpi.qld.gov.au/IOBC>

RECENT ARTICLES OF INTEREST

Compiled by Ian Faithfull

Bain, G. and Steller, P. Returning the sword grass brown butterfly. *Land for Wildlife News* 3(3): 4. The City of Knox and the Knox Environment Society established the Sword Grass Brown Butterfly habitat restoration project which aims to link populations of the butterfly in The Basin with suitable habitat elsewhere and increase the local profile of the butterfly and of butterfly conservation in general. The project is propagating and planting *Gahnia sieberiana* foodplants and has found that application of dilute sulphuric acid improves germination of seed.

Beetle joins ragwort battle. *Colac Herald* 23 Jan 1998 p.4; **Beetles fab for ragwort.** *Weekly Times* 4 Feb p.9. More than 14,000 "field hardened" ragwort flea beetles harvested in Tasmania were released onto the noxious weed in South Gippsland and the Otways during late January. This insect has reduced some infestations of ragwort in Tasmania and Victoria to less than 5% of their former density.

Grape pest warning. *Frankston Independent* 24 Feb 1998 p.46. Australian grapevine rootstocks are largely not resistant to grape phylloxera, *Daktulosphaira vitifoliae*, a devastating aphid pest. Growers were warned at a recent Dept of Natural Resources and Environment workshop at Nagambie that vineyards outside infected areas in north-east Victoria are at risk unless quarantine is effective.

Spiders! FACETS Science and Technology Communicators Newsletter 8(2):5. Exhibition at the Australian Museum, Sydney: displays interactive labs cover the role of spiders in food chains, contribution of spiders to society, spider venoms and silk in modern technology. No one has died from a spider bite in Australia since 1981. "One lucky visitor to the exhibition will have a new Australian spider species named after them."

Living with European wasps. Keith Turnbull Research Institute, DNRE, Oct. 1997. Colour A3 brochure. Illustrates queen, male, worker, 8 nests in different locations; honeybee, native paper wasp, hoverfly; detailed instructions for nest destruction; sting prevention; sting treatment; illustrated life cycle showing nest growth; why do wasps sting?; keeping wasps away from your garden.

Wasps here to stay. *Weekly Times* 4 March 1998 p.3. An enquiry set up by the Minister for Conservation and Land Management has found that it is highly unlikely that *Vespula germanica* will ever be eliminated from areas where they are well established.

Urgent help call on Euro wasp 'plague'. *Frankston Independent* 12 May 1998 p.9. Dramatic increases in wasp populations causing damage in vineyards on the Mornington Peninsula with 10 to 35% of fruit lost.

Thanks to Kelvyn Dunn for contributing material.

Readers are invited to forward items suitable for inclusion in "Recent Articles of Interest" to the compiler at 7/30 Finlay Street, Frankston, Vic., 3199.

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The Society welcomes contributions of articles, papers or notes pertaining to any aspect of entomology for publication in this Bulletin. Contributions are not restricted to members but are invited from all who have an interest. Material submitted should be responsible and original. The Editor reserves the right to have articles refereed. Statements and opinions expressed are the responsibility of the respective authors and do not necessarily reflect the policies of the Society.

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Contributions may be typed on A4 paper or *preferably* sent to the Hon. editor on an IBM formatted disk in *Microsoft Word for Windows*, *WordPerfect* or any recognised word processor software with an enclosed hard copy. Contributions may also be E-mailed to Internet address: *dobrosak@mira.net* When E-mailing, indicate italicised or underlined text by including a suitable ASCII character (e.g.*) before and after the relevant text. Formatted documents e.g. Word for Windows may be E-mailed as "uuencoded" text.

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DIARY OF COMING EVENTS

Friday 21 August General Meeting
I. Endersby & A Farnsworth will present a talk on "Insect Photography"

Friday 18 September Council Meeting

Friday 16 October General Meeting & Excursion
Museum Victoria Abbotsford Annex
(To be confirmed in October *Victorian Entomologist*)

Friday 20 November Council Meeting

Scientific names contained in this document are *not* intended for permanent scientific record, and are not published for the purposes of nomenclature within the meaning of the *International Code of Zoological Nomenclature*, Article 8(b). Contributions may be refereed, and authors alone are responsible for the views expressed.